

CLAIMS

1. A catheter for topical cooling composed of a high thermal conductivity that has the inner space to circulate a heat-cooling medium therein but has no hole connecting to the outside, wherein it is inserted into an organ or a tissue of a mammal including a human and placed therein thereby to topical cool it selectively and continuously.
2. The catheter for topical cooling according to claim 1 which is inserted transdermally into the epidural cavity, the subdural cavity, or the subarachnoid cavity of the spinal cord or the brain, and placed therein thereby to topical cool the spinal cord or the brain selectively and continuously.
3. The catheter for topical cooling according to claim 1 which is inserted transnasally into the esophagus cavity, and placed therein thereby to topical cool the esophagus selectively and continuously.
4. The catheter for topical cooling according to any of claims 1-3 wherein a cooling water or a cooling gas is circulated as a heat-cooling medium.
5. The catheter for topical cooling according to any of claims 1-4 having the shape of a U-form, a disk-form or a swirl-form.
6. A device comprising a reservoir for preserving a heat-cooling medium, a pump for delivering said heat-cooling medium, a heat exchanger for cooling said heat-cooling medium, and a catheter according to

any of claims 1-5, wherein these are linked and arranged in series by a pipe-shaped tube for circulating said heat-cooling medium.

7. A topical cooling device composed of a material having a high thermal conductivity and comprising a heat absorption member in the form of a catheter, a heat insulation member, and a heat radiation member, wherein the heat absorption member in the form of a catheter is inserted into an organ or a tissue of a mammal including a human and placed therein to thereby cool a topical site selectively and continuously by absorbing heat from the heat absorption member and radiating heat from the heat radiation member.

8. The topical cooling device according to claim 7 wherein the heat absorption member as the catheter is transdermally inserted into the epidural cavity, the subdural cavity, or the subarachnoid cavity of the spinal cord or the brain, and placed therein thereby to topical cool the spinal cord or the brain selectively and continuously.

9. The topical cooling device according to claim 7 wherein the heat absorption member as the catheter is transdermally inserted into the esophagus, and placed therein thereby to topical cool the esophagus selectively and continuously.